

## AMENDMENTS TO THE CLAIMS

1 - 9 (cancelled)

\ 10. (Currently amended) A burst detection system for detecting a burst in an incoming signal comprising:

a signal strength change detector for determining strength changes in the incoming signal;

signal strength detection logic for determining if a change in signal strength of a predetermined magnitude has occurred;

a pattern detector for monitoring patterns of symbols in the incoming signal to determine if a predetermined pattern is present;

a burst detector for signaling a detection of a burst if the signal strength change detection logic determines that a signal strength change of predetermined magnitude has occurred and the pattern detector determines that a predetermined pattern of symbols is present;

a signal strength indicator for indicating the strength of the incoming signal;

a short-term signal strength change detector for determining, responsive to the signal strength indicator, short-term changes in signal strength, and a long-term signal strength change indicator for determining, responsive to the signal strength indicator, longterm changes in signal strength;

wherein the signal strength detection logic is configured to determine, responsive to the short-term and long-term signal strength change detectors, if a short-term change in signal strength of a predetermined magnitude has occurred, and a long-term change in signal strength of a predetermined magnitude has occurred;

a signal strength indicator for indicating the strength of the incoming

signal, and the short-term and long-term signal strength change detectors respectively determine short-term and long-term changes in signal strength responsive to the indication of signal strength provided by the signal strength indicator;

~~The system of claim 9~~ wherein the short-term signal strength change detector is configured to determine  $A_n$ , a current moving average of  $M$  samples of  $a_n$ , the indication of signal strength provided by the signal strength indicator, and  $B_n$ , a previous moving average of  $M$  samples of  $a_n$ , where  $M$  is a non-negative integer.

7 11. (Original) The system of claim 10 wherein the signal strength change detection logic is configured to determine if a short-term change in signal strength of sufficient magnitude has occurred by determining if the ratio of  $A_n$  to  $B_n$  exceeds a predetermined threshold.

7 12. (Original) The system of claim 10 wherein the short-term signal strength change detector is configured to determine  $C_n$ , a long-term average of  $a_n$ , in accordance with the following expression:  $C_n = (1-\sigma) * C_{n-1} + a_n$ , where  $\sigma$  is less than or equal to 1, and indicates the relative weights to be given to  $C_{n-1}$  and  $a_n$  in the computation of  $C_n$ .

7 13. (Original) The system of claim 12 wherein the signal strength change detection logic is configured to determine if a change in signal strength of predetermined magnitude has occurred by determining if the ratio of  $A_n$  to  $C_n$  exceeds a predetermined magnitude.

14. (cancelled)

5 15. (Currently amended) A burst detection system for detecting a burst in an incoming signal comprising:

a signal strength change detector for determining strength changes in the incoming signal;

signal strength detection logic for determining if a change in signal strength of a predetermined magnitude has occurred;

a pattern detector for monitoring patterns of symbols in the incoming signal to determine if a predetermined pattern is present;

a burst detector for signaling a detection of a burst if the signal strength change detection logic determines that a signal strength change of predetermined magnitude has occurred and the pattern detector determines that a predetermined pattern of symbols is present;

a signal strength indicator for indicating the strength of the incoming signal;

a short-term signal strength change detector for determining, responsive to the signal strength indicator, short-term changes in signal strength, and a long-term signal strength change indicator for determining, responsive to the signal strength indicator, longterm changes in signal strength;

wherein the signal strength detection logic is configured to determine, responsive to the short-term and long-term signal strength change detectors, if a short-term change in signal strength of a predetermined magnitude has occurred, and a long-term change in signal strength of a predetermined magnitude has occurred;

a symbol detector for detecting symbols, or estimates thereof, in the incoming signal, and the pattern detector monitors the symbols or estimates provided by the symbol detector to determine if a predetermined pattern of symbols is present;

wherein the incoming signal is a quadrature baseband signal, and the symbol detector determines soft estimates  $\hat{\delta\theta}_n$  of the symbols; and

~~The system of claim 14 further comprising~~ a symbol spaced differentiator for determining, responsive to the samples  $\delta\theta_n$  from the symbol detector,  $\delta\delta\theta_n = \delta\theta_n - \delta\theta_{n-L}$  where L is the number of samples/symbol.

16. (Original) The system of claim 15 wherein the pattern detector determines if a predetermined pattern of symbols is present responsive to the values  $\delta\delta\theta_n$  from the symbol spaced differentiator.

17-28 (cancelled)

29. (Currently amended) A method for detecting a burst in an incoming signal comprising:

monitoring short-term signal strength changes in the incoming signal to determine if a short-term change in signal strength of predetermined magnitude has occurred;

monitoring long-term signal strength changes in the incoming signal to determine if a long-term change in signal strength of predetermined magnitude has occurred;

monitoring patterns of symbols in the incoming signal to determine if a predetermined pattern is present;

performing the foregoing three monitoring steps in parallel;

signaling detection of a burst if a short-term signal strength change of predetermined magnitude has occurred, a long-term signal strength change of predetermined magnitude has occurred, and a predetermined pattern of symbols is present;

indicating the strength of the incoming signal, and monitoring short-term and long-term changes in signal strength responsive to the indication of signal

strength; and

~~The method of claim 28 further comprising~~ determining  $A_n$ , a current moving average of  $M$  samples of  $a_n$ , the indication of signal strength, and  $B_n$ , a previous moving average of  $M$  samples of  $a_n$ , where  $M$  is a non-negative integer.

2 30. (Original) The method of claim 29 further comprising determining if a short-term change in signal strength of sufficient magnitude has occurred by determining if the ratio of  $A_n$  to  $B_n$  exceeds a predetermined threshold.

31. (Original) The method of claim 29 further comprising determining  $C_n$ , a long-term average of  $a_n$ , in accordance with the following expression:  $C_n = (1-\sigma) \cdot C_{n-1} + \sigma \cdot a_n$ , where  $\sigma$  is less than or equal to 1, and indicates the relative weights to be given to  $C_{n-1}$  and  $a_n$  in the computation of  $C_n$ .

32. (Original) The method of claim 31 further comprising determining if a change in signal strength of predetermined magnitude has occurred by determining if the ratio of  $A_n$  to  $C_n$  exceeds a predetermined magnitude.

33. (Cancelled)

34. (Currently amended) A method for detecting a burst in an incoming signal comprising:

monitoring short-term signal strength changes in the incoming signal to determine if a short-term change in signal strength of predetermined magnitude has occurred;

monitoring long-term signal strength changes in the incoming signal to determine if a long-term change in signal strength of predetermined magnitude has

occurred;

monitoring patterns of symbols in the incoming signal to determine if a predetermined pattern is present;

performing the foregoing three monitoring steps in parallel;

signaling detection of a burst if a short-term signal strength change of predetermined magnitude has occurred, a long-term signal strength change of predetermined magnitude has occurred, and a predetermined pattern of symbols is present;

detecting symbols, or estimates thereof, in the incoming signal, and monitoring the symbols or estimates to determine if a predetermined pattern of symbols is present;

wherein the incoming signal is a quadrature baseband signal, and the method further comprises determining soft estimates  $\delta\theta_n$  of the symbols; and

~~The method of claim 33 further comprising~~ determining, responsive to the samples  $\delta\theta_n$ ,  $\delta\delta\theta_n = \delta\theta_n - \delta\theta_{n-L}$ , where L is the number of samples/symbol.

35. (Original) The method of claim 34 further comprising determining if a predetermined pattern of symbols is present responsive to the values  $\delta\delta\theta_n$ .

36 - 42 (Cancelled)